Kishwaukee College Syllabus
CIS 160 - 3001
Java Programming I
3 Credit Hours, Fall 2016

A. **Course Description**

The first course in the Java language sequence. It emphasizes a disciplined approach to problem solving and algorithm development. Input and output will be done using the command line, a graphical user interface, and files. Topics include selection, repetition, methods, arrays, text manipulation, data abstraction, and object oriented programming. Program design, style, documentation, and testing will be practiced. Three hours lecture/discussion a week. **IAI: CS 911**

Prerequisite: MAT 086

B. **Meeting Time and Place**

Lecture/Lab:	A-1374	
Time:	12:30 P.M. - 1:45 P.M.	Tuesday, Thursday
Dates:	8/30/16 - 12/22/16	
Withdrawal date:	12/05/16	
Labor Day:	9/5/16	School closed
Fall Friday:	10/21/16	School closed
Thanksgiving break:	11/23/16 5:00 PM - 11/26/16	School closed
Midterm exam:	10/20/16	during class
Final exam:	12/20/16	Noon - 1:50 P.M.

C. **Instructor Information**

Instructor:	David G. Klick
Office:	A-1342
Email:	David.Klick@kishwaukeecollege.edu
Phone:	815/825-9337
Website:	kermit.kishwaukeecollege.edu/~dklick/
Backup website:	klickfamily.com/david/school/
Desire2Learn:	https://kish.desire2learn.com/
Dept. Secretary:	815/825-2086 x2030 (Shelley Lawson)
Office hours:	M 10:00 A.M. -11:00 A.M.
	T 1:45 P.M. - 2:30 P.M., 5:15 P.M. - 6:00 P.M.
	W 10:00 A.M. - 11:00 A.M.
	R 1:45 P.M. - 2:45 P.M.
	other times by appointment

D. **Expected Learner Outcomes**

Upon completion of this course, the student will be able to:

1. create, compile, and run Java programs
2. compare and contrast basic data types
3. declare and use variables
4. get input using a CLI and a GUI
5. display output using a CLI and a GUI

6. process numeric data using arithmetic operators
7. create and use methods and parameters, including passing by reference and passing by value
8. explain variable scope and lifetime
9. use selection to implement algorithms
10. use repetition to implement algorithms
11. use files for input and output
12. format output
13. create and use arrays
14. sort an array
15. create and use classes and objects, including inheritance and instance variables
16. create and use constructors, overloaded methods, and overridden methods
17. catch exceptions and use assertions
18. write programs that follow standard style conventions
19. test and debug programs

E. **Required Text and Materials**

1. Vahid Frank and Roman Lysecky. KISHWAUKEECOLLEGECIS160KlickFall2016 Programming in Java. Zyante Inc. Copyright 2016. This book is an online, interactive book. Sign up at zyBooks.com, enter zyBook code KISHWAUKEECOLLEGECIS160KlickFall2016 and click Subscribe
2. Internet access
3. A standard modern Java compiler (available free via the Internet)

F. **Breakdown of Course Requirements**

8 programming projects @ 25 points each	200 points
13 labs @ 10 points each	130 points
13 chapter participation activities @ 10 points each	130 points
11 chapter challenges @ 10 points each	110 points
3 quizzes @ 10 points each	30 points
1 midterm exam @ 100 points	100 points
1 final exam @ 100 points	100 points
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Total	800 points

G. **Final Grade Determination**

A = 90 - 100%	720 points or more
B = 80 - 89.9%	640 - 719 points
C = 70 - 79.9%	560 - 639 points
D = 60 - 69.9%	480 - 559 points
F = below 60%	less than 480 points

Grade reports will not be mailed out. Please check KishSOS,
My Student Info, under Academic Profile, Grades, for grade reports.

H. **Course Procedures**

1. Students are expected to attend class sessions on time and prepared (Note: CIS 123 class sessions are optional attendance). Students should bring whatever they need to take notes to every class.
2. Students are expected to spend **time outside of class** completing assignments.
3. Food and beverages are not permitted in the classrooms or labs. See a more detailed policy at

http://kermit.kishwaukeecollege.edu/~dklick/foodDrinkPolicy.html

4. A familiarity with computers and the Windows operating system is expected.
5. Depending on the assignment, both digital and hardcopy versions of assignments may be required for submission. The procedure for submitting digital copies of assignments will be explained in class. Make sure you always keep a copy of all of your assignments. The instructor is NOT responsible for network failures, server failures, or student mistakes.
6. The instructor answers many questions via email. Due to the high volume of requests, submissions, and questions received via email, the instructor must prioritize responses. Most questions will be answered (or at least acknowledged) within 48 hours. If you do not get a response when you expect one, please keep in mind that your email may have failed to reach the instructor, or may have automatically been rejected by an email client or server. Please try to contact the instructor again and possibly use the phone or an in-person visit if email is failing.

I. **Make-up Policy**

1. Assignments are to be turned in on time. Assignments which are not turned in on time will not be accepted unless individual arrangements are made **in advance** with the instructor. In unusual cases where late assignments are accepted, the cost of being late is ten percent of the total possible points for every portion of a day late, up to a maximum of three days late. For example, an assignment received twenty-five hours past its due date will lose twenty percent of its total possible point value (because it is two days late). Assignments which are received more than three days (seventy-two hours) late will not be accepted and are not worth any points. Exceptions may be made to this rule if the student contacts the instructor before the due date and makes special arrangements **in advance** with the instructor. All late acceptance decisions of this nature are left solely to the discretion of the instructor. This rule does not apply once answers to an assignment have been distributed or posted. Assignments submitted after answers have been released are worth zero points even if the answers are posted one minute past the due date.
2. Answers to assignments may be posted online, handed out in class, or sent via email by the instructor. Once an answer to an assignment has been released, no further submissions for the assignment will be allowed. This rule supersedes all other rules about when late assignments may be accepted. In general, the instructor will try to wait at least forty-eight hours before posting or distributing solutions, but there is no guarantee, so get your assignments in on time.
3. Tests are to be taken at the day and time scheduled. Failure to take a test at the scheduled time may result in a grade of 0 for that test. In the case of an excusable absence or a genuine emergency, the instructor must be contacted as soon as possible, preferably before the scheduled test, to reschedule the makeup of that test in the Learning Skills Center on the day the student returns to campus.

J. **Attendance Policy**

Class attendance is strongly encouraged. You are responsible for whatever was covered in class, whether you are there or not. If you must miss a class, it is your responsibility to contact the instructor and make arrangements for notes, handouts, or announcements that were missed. Although attendance is not counted toward the final grade, there may be coursework which is done during class time which may count toward the final grade and may not be able to be taken outside of class time.

Tentative Weekly Schedule

Please note that this schedule and the topics covered are likely to change. Changes will be

announced in class. If you are not able to attend class, it is your responsibility to find out what was covered. A more detailed schedule is provided on the course website. Assignment descriptions and due dates will also be posted on the course web site.

Week	Date	Topics
1	8/30, 9/1	Overview of course and introduction to programming (Chapter 1) • syllabus • installing a Java compiler • intro to zybooks.com • basic programming concepts • getting Java installed • entering, compiling, and running a Java program • simple CLI input and output
2	9/6, 9/8	Variables, expressions, and assigment statements (Chapters 1 and 2) • **Note: School closed for Labor Day on Monday, 9/5/16** • **Chapter 1 participation activities due** • **Chapter 1 challenge activities due** • **Chapter 2 participation activities due** • program structure • comments • errors • some primitive data types in Java • declaring and initializing variables • literals • constants • the binary number system • formatting output • arithmetic operators and precedence
3	9/13, 9/15	More variables and basics (Chapter 3) • **Chapter 2 challenge activities due** • **Chapter 3 participation activities due** • **In-class lab 1: using output, variables, and simple math** • the char data type • the String class • the concatenation operator • program style conventions • numeric data types • converting between primitive data types • integer overflow • parsing a String as a number • generating random numbers • debugging • reading API documentation

4	9/20, 9/22	Selection (Chapter 4) • **Chapter 3 challenge activities due** • **Chapter 4 participation activities due** • **In-class lab 2: input, formatting output, calculations** • **In-class lab 3: decisions** • the boolean data type • logical operators • relational operators • if statement • if/else statement • nested if/else statements • variable scope • the conditional operator • switch statement • comparing Strings • short circuit evaluation
5	9/27, 9/29	Repetition (Chapter 5) • **Chapter 4 challenge activities due** • **Chapter 5 participation activities due** • **In-class lab 4: repetition** • **Programming assignment 1 due: I/O, expressions, selection** • while loop • do/while loop • for loop • increment and decrement operators • loop counters • sentinel values • accumulators • nested loops • break and continue (if time permits)
6	10/4, 10/6	Methods (Chapter 6) • **Chapter 5 challenge activities due** • **Chapter 6 participation activities due** • **Programming assignment 2 due: repetition** • reasons for methods • syntax of a method • passing values to a method • returning a value from a method • passing by reference (objects) vs. passing by value • how methods work
7	10/11, 10/13	Methods continued (Chapter 6) • **Chapter 6 challenge activities due** • **In-class lab 5: methods**

		• variable scope and lifetime in methods • common errors in methods • overloading a method • javadoc for methods • unit testing for methods
8	10/18, 10/20	Application of concepts so far and Midterm exam • **In-class demonstration of concepts covered so far** • **Midterm exam 10/20/16**: Chapters 1 - 6
9	10/25, 10/27	File I/O (Chapter 7), Arrays (Chapter 8) • **Chapter 7 participation activities due** • **Quiz 1: file I/O quiz in D2L due (Chapter 7)** • **Programming assignment 3 due: methods** • text file input and output • declaring arrays • initializing arrays • array bounds • accessing array values • accessing array elements • modifying array elements • common array algorithms (minimum, maximum, sum, fill, display)
10	11/1, 11/3	Arrays (Chapter 8) • **Chapter 8 participation activities due** • **Chapter 8 challenge activities due** • **In-class lab 6: arrays** • **Programming assignment 4 due: file I/O** • creating and using arrays of Strings • arrays of objects • passing arrays to methods
11	11/8, 11/10	Searching and sorting arrays (notes on course website) String and character operations (Chapter 9) • **Chapter 9 participation activities due** • **In-class lab 7: sorting arrays** • **Quiz 2: Searching and sorting quiz in D2L due** • **In-class lab 8: character and string methods** • **Programming assignment 5 due: arrays** • char data type operations • String data type operations (especially comparison) • linear search (using an array) • binary search (using an array) • implementation of some simple sorting algorithms (using arrays)

12	11/15, 11/17	Classes and objects (Chapter 10) • **Chapter 9 challenge activities due** • **Chapter 10 participation activities due** • **Chapter 10 challenge activities due** • **In-class lab 9: classes and objects** • objects • classes • instance and static variables • access modifiers (public, private, protected, default) • accessors • mutators • creating (instantiating) an object of a class • constructors • constructor overloading • passing objects to/from methods • javadoc for classes • the "this" keyword and implicit parameter
13	11/22, 11/24	Inheritance, memory management, exceptions, enumerations (Chapter 11) • **Chapter 11 participation activities due** • **In-class lab 10: exceptions** • derived classes • overriding member methods • the Object class • is-a vs. has-a • memory: heap vs. stack • garbage collection in Java • exception basics • using exceptions with methods • handling exceptions • multiple exception handlers • using assertions

14	11/29,
	12/1
		Creating and using a GUI (Chapter 12 and course website notes)
		• **Programming assignment 6 due: classes and objects**
		• **In-class lab 11: non-functional GUI**
		• Online text material
		  ○ **Chapter 11 challenge activities due**
		  ○ **Chapter 12 participation activities due**
		  ○ basic graphics
		  ○ introduction to GUIs
		  ○ positioning using a GridBagLayout
		  ○ using various Java GUI widgets
		• Course website material
		  ○ the components of a GUI (containers, components, layout managers, listeners)

		○ AWT and Swing ○ the event dispatch thread ○ create a container (JFrame, JPanel) ○ set a layout manager ○ create components (JLabel, JButton, JTextField) ○ add components and containers to containers ○ set JFrame settings ○ create a simple non-functional GUI
15	12/6, 12/8	GUI continued (course website notes) • **Programming assignment 7 due: a simple non-working GUI** • **Quiz 3: GUI quiz in D2L due (based on course website notes)** • **In-class lab 12: functional GUI** • create additional components (JComboBox, JRadioButton, JCheckBox) • create and use a ButtonGroup • create and use listeners • get input from a GUI component • display information on a (JLabel) GUI component • create a simple functional GUI
16	12/13, 12/15	Recursion (Chapter 13) • **Chapter 13 participation activities due** • **Chapter 13 challenge activities due** • **Programming assignment 8 due: a simple working GUI, manipulating text/strings** • **In-class lab 13: recursion** • introduction to recursion • using recursive methods • examples of recursive method applications
17	12/20	**Final exam: Noon - 1:50 P.M., Rm. A-1374**, Comprehensive

Kishwaukee College Policies and Resources

A. Academic Dishonesty
B. Assistive Resources Center/Disability Services
C. Attendance Verification Roster
D. Class Cancellations
E. Class Withdrawal
F. Community Resources
G. Copyright
H. Emergency Procedures/Safety
I. Graduation Requirements for Transfer Degree Students
J. Incomplete Grade
K. Learning Skills Center
L. Recording of Classes/Presentations
M. Religious Observances
N. Student E-mail
O. Technical Support

Please see the Kishwaukee College Catalog for other policies and resources

A. **Academic Dishonesty**

In order to evaluate student work, faculty must be able to trust that the work is original with a student and not the work of someone else. Cheating, falsifying information, forgery, plagiarism, and other dishonest actions will not be tolerated. Detailed information can be found by clicking on this link: www.kishwaukeecollege.edu/student-life-essential-student-information/student-code-conduct

B. **Assistive Resources Center/Disability Services**

Any student with a documented disability or special learning need and wanting to request accommodations, should contact the Assistive Resources Center in A1317 or at (815) 825-2086 ext. 4290, (815) 825-9106 (TTY). More information can be found on the MyKC Portal: https://mykc.kishwaukeecollege.edu/collegeareas/vpss/disabilityservices/Pages/default.aspx

C. **Attendance Verification Roster**

Students who do not attend their class during the refund period will be dropped from the class roster and will be charged for the class. More information can be found on the MyKC Portal: https://mykc.kishwaukeecollege.edu/collegeareas/vpfa/bo/Pages/default.aspx

D. **Class Cancellations**

Class cancellations due to inclement weather will be posted on the College Website: www.kishwaukeecollege.edu or announced by the local radio stations. You may sign up for text alerts at myKC/Student Resources/Text Alert. Students may also call the College at (815) 825-2086. Class cancellations due to instructor absence will be posted on the classroom door. Room changes will be announced in advance whenever possible and posted on the classroom door.

E. **Class Withdrawal**

A "W" cannot be given as a final grade. The student is responsible for officially withdrawing from the class according to procedures described in the college catalog. Refer to page 166. Kishwaukee College reserves the right to administratively withdraw students from the Attendance Verification Roster or the Midterm Roster those students who are not actively pursuing course objectives or who are in violation of standards of behavior as outlined in the Student Code of Conduct and Discipline. For a copy of the student conduct policy, contact the Vice President of Student Services Office or refer to the Kishwaukee College catalog.

F. **Community Resources**

There are numerous community resources that are available to assist students in addressing a variety of personal needs. Resource contact information can be found on MyKC: https://mykc.kishwaukeecollege.edu/collegeareas/vpss/counseling/Pages/Documents.aspx

G. **Copyright**

As a Kishwaukee College Student, you may have copyrighted materials or software made available to you by the college for course use. Please understand that copyright law may prohibit copying or further distribution of these materials. Full information can be found here: www.kishwaukeecollege.edu/student-life-essential-student-information-students-right-know/copyright-law-notification

H. **Emergency Procedures/Safety**

Yellow and red Emergency Information flipcharts are located in each classroom. These are quick reference sheets with telephone numbers to reach emergency assistance and a brief description of the correct actions to take in the event of a tornado, fire or other emergency on campus. More information can be found in the college catalog on page 196.

I. **Graduation Requirements for Transfer Degree Students**

Guidelines and specific requirements can be found here: www.kishwaukeecollege.edu/academics-resources/graduation-requirements

J. **Incomplete Grade**

All course requirements must be completed by the end date for the course. In the event that extremely difficult circumstances merit granting a student more time to finish course requirements, an "Incomplete" (I) grade may be given. More information can be found in the college catalog on page 170.

K. **Learning Skills Center (A1300)**

Tutoring, The Writing Center, make-up tests, online tests, and placement tests are available through the Learning Skills Center. For more information, go to https://mykc.kishwaukeecollege.edu/collegeareas/vpi/lsc/Pages/default.aspx

L. **Recordings of Classes/Presentations**

Kishwaukee College prohibits students from electronically recording class lectures and presentations (either by audio, video, picture, or otherwise) unless certain qualifying conditions are met.

1. The student requires the recording of lectures/presentations as part of his/her accommodations related to a disability that has been adequately documented with the Coordinator of the Assistive Resources Center.
2. The instructor has given advance written permission to the student that stipulates what may be recorded and by which device(s) the lectures/presentations may be recorded.

In either of the above cases, the following restrictions shall apply:

1. Recordings are solely for the use of the student designated either in the disability accommodations or the instructor's written permission to record.
2. Recordings must not be shared or reproduced for any reason.
3. Recordings must not be posted on any public or private website or social media service.
4. Recordings must be destroyed by the student at the end of the semester in which the recording was made.

A student found to have committed a violation of this procedure shall be subject to one or more sanctions described in the Code of Student Conduct and Discipline. Students seeking to obtain permission to record a class must inquire with the instructor in question and, if the instructor agrees to allow recording, the student and instructor must complete a Permission to Record a Class/Lecture Presentation form.

M. **Religious Observances**

Students faced with schedule conflicts related to a religious observance should make prior arrangements with the instructor a minimum of seven (7) school days in advance of the examination or other activity involved.

N. **Student E-Mail**

Your Kishwaukee College e-mail account will be the official way to receive notices from the College. If you choose to forward your e-mail to another account, please be advised that all communication from and within the college will use your Kishwaukee student e-mail. When communicating with instructors or employees of the college, you are required to use your Kishwaukee e-mail address.

O. **Technical Support**

If you require technical support, please contact the Help Desk:

1. helpdesk@kishwaukeecollege.edu

2. (815) 825 2086, ext. 4357 (HELP)
3. Visit the Helpdesk's office located in Media Services A1252
4. http://helpdesk.kishwaukeecollege.edu